

PATENT APPLICATION

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re the Application of

Shuichi EZAKI et al.

Attn: PCT Branch

Application No. New U.S. National Stage of PCT/JP2004/019147

Filed: June 8, 2006

Docket No.: 128369

For: VALVE GEAR OF INTERNAL COMBUSTION ENGINE

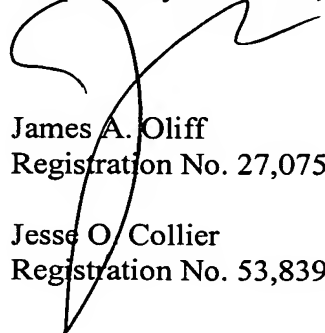
**SUBMISSION OF THE ANNEXES TO THE
INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY**

Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Sir:

Attached hereto is the annexes to the International Preliminary Report on Patentability (Form PCT/IPEA/409). The attached material replaces the claims.

Respectfully submitted,


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CLAIMS

1. (amended) A valve gear of an internal combustion engine comprising:

an electric motor;

a cam mechanism which converts a rotational motion of the electric motor into a linear motion of a valve for opening and closing a cylinder by a cam; and

an electric motor control device which controls the electric motor such that an acceleration characteristic during a lift of the valve changes in correspondence to a rotation number of the internal combustion engine,

wherein the electric motor control device controls the electric motor such that when the rotation number of the internal combustion engine is low, the speed of the cam in predetermined sections after starting the lift of the valve and before finishing the lift becomes higher than the speed of the cam in an intermediate section between the predetermined sections, and when the rotation number of the internal combustion engine is high, the cam is rotated at a constant speed during the lift of the valve.

2. (canceled)

3. (amended) The valve gear according to claim 1, wherein the electric motor control device controls the electric motor such that a difference of the rotating speed of the cam is reduced between the predetermined sections and the intermediate section in accordance with an increase of the rotation number of the

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internal combustion engine.

4. (amended) A valve gear of an internal combustion engine comprising:

an electric motor;

a cam mechanism which converts a rotational motion of the electric motor into a linear motion of a valve for opening and closing a cylinder by a cam; and

an electric motor control device which controls the electric motor such that an acceleration characteristic during a lift of the valve changes in correspondence to a rotation number of the internal combustion engine,

wherein the electric motor control device controls the electric motor such that when the rotation number of the internal combustion engine is low, the cam is rotated at a constant speed during the lift, and when the rotation number of the internal combustion engine is high, the speed of the cam in predetermined sections after starting the lift of the valve and before finishing the lift becomes lower than the speed of the cam in an intermediate section between the predetermined sections.

5. The valve gear according to claim 4, wherein the electric motor control device controls the electric motor such that a difference of the rotating speed of the cam is increased between the predetermined section and the intermediate sections in accordance with an increase of the rotation number of the internal combustion engine.

6. (canceled)

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7. (canceled)

8. (amended) A valve gear of an internal combustion engine comprising:

an electric motor;

a cam mechanism which converts a rotational motion of the electric motor into a linear motion of a valve for opening and closing a cylinder by a cam, a profile of the cam being designed such as to restrict a cam shaft torque at a predetermined rotation region; and

an electric motor control device which controls the electric motor such that an acceleration characteristic during a lift of the valve changes in correspondence to a rotation number of the internal combustion engine,

wherein the electric motor control device controls the electric motor such that an increase of the cam shaft torque which is generated at a time when the cam is driven out of the predetermined rotation region in view of the profile design is restricted.